Jan 1st, 12:00 AM

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Syfert, Collin J. and Woolley, Samuel (2014). Finding a Place for Deliberation and Democracy in the Manufactroversy about Climate Change. https://doi.org/10.31274/sciencecommunication-180809-111

Finding a Place for Deliberation and Democracy in the Manufactroversy about Climate Change

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ABSTRACT: Although climate change rhetoric increasingly circulates in public discourse, serious debate about climate change policies have only begun to emerge. An influential component of this hesitance rests in an assumed controversy among climate scientists about the origin and projected scale of climate change impacts. Certain media practices come into question that may perpetuate this sense of doubt: journalistic ethics that demand balance in media reporting and the polarization and simplification of arguments in social media. This presentation explores these spaces where scientific arguments enter the public sphere and how ethics can be used to negotiate the conflict that emerges.

KEYWORDS: Climate change, Fairness doctrine, False balance, Social media, Twitter

1. INTRODUCTION

In the most recent IPCC assessment, climate scientists from around the world proclaimed "it is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century" (2013). However a Gallup poll (2014a) suggests that one in four people in the U.S. are solidly skeptical of global warming. Perhaps even worse, Gallup (2014b) found that Americans show low levels of concern on global warming. The IPCC and National Climate assessments are full of startling graphs and depictions of our world in a state of decay. If these reports are true indicators of our planet's perilous trajectory, why hasn't the public expressed concerns on par with the scientific findings? By examining the relationships between scientists, journalists, and the public, this exploratory study looks for answers to why the anthropogenic drivers of climate change continue to push forward despite a scientific consensus that we are driving to collapse.

A brief background in science, and environmental science in particular, will help to set the stage for many of the claims made throughout this study. Unbeknownst to many, science is an enterprise charged with reducing uncertainty and is very rarely in the business of Truth. Cox (2013) points out that uncertainty is similarly a part of environmental science but that this discipline must also balance the costs and benefits of proposed actions. The process of assessing balance and taking action then is reliant on value judgements. The careful consideration of values is especially important when "scientists are not the only voices involved" (Cox, 2013, p. 322). Conflicting value orientations, toward caution or toward trust for example, have made science that supports anthropogenic climate change into a site of controversy. Despite never being able to achieve full certainty, climate science is sometimes called out as being uncertain and in need of more research. Such claims are made to warrant a delay in action.

The present study tracks the literature pertinent to understanding the conflictual site where scientific information enters the public sphere. It first examines journalistic norms and values that have made the communication of climate science problematic. While these norms and values have begun to shift, largely in response to the climate change debate, toward new articulations of balance, doing so has led to a questioning of the journalists place on the objective/subjective continuum. As new and social media forms have taken precedence in recent years, the reporting and discussion of climate change and climate science has followed. Journalists now frequently run blogs. People share climate change stories via Twitter. But how has this expanding of the public sphere affected the spread and interpretation of climate science? What role do democratic values have when it comes to technocratic arguments? This exploratory study ends with some insights and suggestions on how scientific messages can better navigate and act persuasively in the public sphere. The aim of this project is to act as a starting place for future studies, our own included, that track changes in the spread and efficacy of climate change messages and other scientific claims, when they leave the technical sphere and enter into a wider and often more complicated world.

2. JOURNALISTIC NORMS: WHERE WE'VE BEEN

In their book Merchants of Doubt, Naomi Oreskes and Erik Conway (2010) reveal a sustained attack on established scientific knowledge and public awareness by a fringe, yet highly influential, group of scientists with connections to industry and politics. It would be one thing to point out that these high-level scientists come from disciplines with tangential relations to climate science, but more impactful is their creation of a journalistic hole that allows unscientific claims to become broadly circulated in the public. The acceptance of unscientific claims is particularly troublesome for complex scientific issues such as climate change. In response to these skeptical claims, scientists have attempted to correct misrepresentation of climate science only to find themselves rejected by the journals that published the original skeptical claims. It is easy to point fingers at industry and politicians for politicizing climate science or at journalists for not doing their homework, but what is happening is more complex. Conspiratorial work may be at play, but skeptics aim their attacks at points of conflict created by mutually exclusive values and the social structures in which these values have become embedded.

Mass media outlets often feel obligated to report climate change as a controversy and in doing so give legitimacy to the minority voice of climate skeptics. Oreskes and Conway (2010) explain that journalists were pressured to give skeptics equal time and space in their reports. The hounding of reporters by skeptical scientists and the organizations they represent may, however, be an overstatement, as the notion of balance has long been a god-term in professional journalism. The Fairness Doctrine, a former Federal Communications Commission policy that required broadcasters to devote time to contrasting sides of a controversial issue, was eliminated in 1987, but its guiding principle remains. Despite its obvious importance in giving minority perspectives a voice, the Fairness Doctrine becomes problematic when it encounters scientific consensus.

In their influential 2004 study, Boykoff and Boykoff analyzed the reporting of global warming stories in premier American newspapers. They found that over half of these stories were "balanced" by giving climate skeptics a strong media presence. This study follows the release of the IPCC's Third Assessment Report in 2001 which assessed available scientific and socio-economic reports showing a scientific consensus on global warming. When news media

balance their climate change stories in this way, they create biased coverage of scientific findings. A "balanced" report creates scientific uncertainty where there is none, when it may be more useful to focus on the discussion of public values and how they interpret science and calls for action. Boykoff and Boykoff explain that the creation of scientific uncertainty came with a demand for more research despite the scientific consensus and led to a delay in social and legislative action. Scientific controversy in this sense emerges from the systemic application of traditional journalistic norms and values, not only in misunderstanding science and the pressure of skeptics.

While equal attention has been given to both sides of the climate change controversy, journalists sometimes also fail to identify a side as the majority view. Delborne (2014) makes note of the politeness and balance given to each position and how in the end no judgment is made. When both sides in the debate are considered equal, climate scientists interviewed with regards to their position on climate change are matched against well-known political actors who voice a competing perspective. Journalistic balance brings stakeholder voices into the conversation but avoids decisions about whose voice carries the most weight. As cultivation theory suggests, the more the media presents climate science as a controversy, the more likely individuals are to accept that representation of reality.

Ceccarelli (2011) concurs with Boykoff and Boykoff (2004), in claiming that the call for increased research to resolve scientific controversies leads to delay in public policy, but her emphasis on "manufactured" scientific controversies, or "manufactroversy," better aligns with Oreskes and Conway (2010). The journalistic standards of balance and dissoi logoi become a trap to which skeptics lead their prey. Ceccarelli also highlights an appeal to democratic values that call scientists to debate in the public sphere. Doing so, however, would again legitimize the opposition, making it seem as if there is a rift in the scientific community rather than consensus. The democratization of science, bringing debates that have occurred in the technical sphere into the public sphere, similarly undermines the processes of peer-review and tenure that safeguard sound science (Ceccarelli, 2011). The situation for mainstream scientists is troublesome because failing to meet the skeptics in the public sphere is both akin to conceding defeat and proof of the scientists' dogmatic orthodoxy. Scientists must consider the opinions of the public concerning issues that affect them, but the challenge is to do so while maintaining the integrity of science and avoid appearing antidemocratic.

The nature of news and entertainment media is similarly problematic for climate science and representations of climate change's systemic and drawn-out effects. Farnsworth & Lichter (2012) point out that reporters favor conflict stories frames which are more compelling and definitive for public audiences. Promoting a sense of conflict regarding climate change backgrounds the scientific consensus, and further suggests that there is a conflict in the realm of climate science itself. This same effect occurs when journalists give voice to both scientists and skeptics, which may create the feel of an exciting debate but is detrimental to the acceptance of scientific conclusions. When scientists have tried to make climate science more immediate and foster a sense of urgency in their public audience, they are often met with a backlash calling them out for over-sensationalizing their findings.

Although journalist norms and ideals have proven to be problematic when faced with science controversies, changes in the industry of professional mass journalism can also be at blame. As the public begins to consume more online news, the number of journalists has gone down. Smith (2014) and Cox (2013) have found that media outlets are less able to invest in specialist journalists and that all journalists now have less time to research their stories. When

journalists lack expertise to judge conflicting climate change claims, they may then balance stories by quoting from each side (Cox, 2013). In this way, true investigative journalism has become a dying art at a time when it is most crucial.

A further limitation on the representation of climate science in mass media news are political frames that create polarized interpretations by both journalists and viewing publics (Bennett, 2012; Dirikx & Gelders, 2010). Bennett explains that people do not fully understand or trust science and when journalistic norms of indexing and balance present climate change science and consensus, party lines act to filter the science. Dirikx and Gelders found that the left-leaning presses tended to emphasize the anthropocentric component of climate change whereas right-leaning presses emphasized a lack of scientific certainty. These results point to a possible shifting in the "balanced" reporting found by Boykoff and Boykoff (2004). Extending these findings, Elsasser and Dunlap (2013) have found that the bias in coverage leads to an echo chamber effect, particularly in the case of conservative columnists who often have wider audiences than even television and radio news. These political commentators are free from standards of fact checking and rebuttals. Their voices although potentially laden with shoddy scientific claims, are influential in spreading and amplifying climate change skepticism.

Not everything in the world of climate science reporting is somber though. A few years after his initial study, Boykoff (2007) found that "balance as bias" in elite newspapers was beginning to shift toward a more accurate reflection of the scientific consensus. What had happened was that mainstream environmental journalists had developed a modified norm of objectivity, largely through their experience with reporting on climate change (Hiles & Hinnant, 2014). Hiles and Hinnant found that veteran environmental journalists may be well versed in their beat, but still face pressures regarding how to portray their own views. These journalists were found to take pride and comfort in maintaining traditional journalistic norms and values but were forced to adapt them to cover climate change. As such, what it means to be balanced has shifted as journalists try to navigate their position between subjectivity and objectivity. Hiles and Hinnant point out that environmental journalists have become "increasingly aware of the subjective nature of the news agenda and the way stories are framed" (p. 21). However although they are now putting more weight into who constitutes a credible source, the public has been primed by "balance as bias." Corrective measures in media representation of climate change may take some time to overcome these ingrained expectations held by the public.

This study examined what has happened when scientific arguments enter the public sphere in the case of journalistic norms and ideals that have complicated the dissemination of climate change science. Our attention now turns to new and social media that play an increasingly important role in how we make meaning of issues that affect society. The shift from mass production and distribution of information to networked forms comes with it shifts in these very journalistic standards (Tegelberg, Yagodin, & Ruddell, 2014). Climate change news coverage in the U.S. is increasingly shifting online from traditional news outlets and Tegelberg, Yagodin, and Ruddell (2014) point to the sophisticated tools and platforms used by media activists to counter faux balance. The capacity for networks to grow and reach new audiences is alluring, and journalists have taken notice. They are beginning to get connected.

3. CLIMATE CHANGE AND SOCIAL MEDIA: WHERE WE ARE

Opinions on the role of social media as a communication tool for furthering new dialogues on general political, social, and scientific phenomena range from cautiously optimistic to staunchly

cynical. The academic thought pattern regarding the journalistic function of sites like Twitter and Facebook runs along similar lines. Undoubtedly, Twitter and other micro-blogging sites are changing the way that news is reported, received, and conceived in the developed world. Such sites' rules regarding post brevity are cause for concern among those who hope for in depth reporting and understandings of issues like climate change. Other critics worry that online activism might reduce activism offline (Morozov, 2009). However, new research shows that Twitter and other social media sites might help to introduce and spread scientifically minded ideas and news articles (Segerberg & Bennett 2011; Phelan et al., 2009; Hermida, 2010). Indeed, preliminary studies examining Tweet types suggest that over 85% of messages on Twitter focus on headline news (Kwak et al., 2010).

Hermida (2010) argues that Twitter has changed the ways journalists understand public communication of news topics, potential and ongoing. Moreover, Hermida suggests that the brief and digestible nature of Tweets allow publics more easily to conceptualize the corpus of news information and events, making way for a new age of "ambient" journalism. Journalists, as issue interpreters, however, have been known to help to perpetuate unscientific arguments of climate change deniers because of institutional expectations and standards of objectivity (Ceccarelli, 2011; Hiles & Hinnant, 2014, Santhanam, 2014). Twitter, then, with tweet content overwhelmingly focused on mainstream news and current events, helps to perpetuate journalists' "balanced" but imprecise reporting of the climate change disaster (Kwal et al., 2010). If much of what is shared on Twitter is headline news and news links, then common misperceptions regarding climate change are as available on social media sites as they are in hard copy news. Indeed, these "fair and balanced" articles are often shared or summed on such sites in a brief and cursory way. What are the ethical implications of perpetuating the sound bite culture of journalism on social media sites?

The questions regarding social media's role in science news dissemination must be broadened in scope, however. Does the ephemeral and brief nature of Tweets prevent people from engaging in meaningful dialogue about issues like climate change online? What are the ethical implications of the possible oversimplification of such issues? When readily available online, how might subjectivities inherent in citizen journalism serve to both help and hurt public understandings of climate change?

The idea of "slacktivism," that engaging in brief, socially and civically minded action online might provide an excuse for people not to engage in such action offline, is one that worries the cause of scientific engagement and comprehension online (Morozov, 2009). Morozov's argument is that embryonic conversations or simple "likes" of posts on social media about any myriad of pressing issues, climate change included, prevent people from attempting to become meaningfully involved in real life. It is not enough, according to Morozov, that people talk about issues in a shallow way. Simple conversation of 144 character tweets will not solve the major issues of this age. Malcolm Gladwell (2010), in a more mainstream opinion discourse via the *New Yorker*, supports Morozov's arguments about slacktivism, going as far as to suggest that the "revolution won't be tweeted" because ties on Twitter are weak at best. Theorist Jodi Dean (2005) takes this argument further, positing that "clicktivism" becomes fetishized. She suggests that "when we are interpassive, something else, a fetish object, is active in our stead […] The frantic activity of the fetish works to prevent actual action, to prevent something from really happening" (pg. 109).

Christensen (2011) presents an alternate opinion on the reality of Internet activism and engagement with socio-political ideas on and offline. The findings of his study suggest that, far

from causing slacktivism, Internet engagement aids in offline mobilization. At best, Christensen posits, the Internet and social media provide spaces for political and social invigoration. A profusion of other recent articles side with Christensen's view of the effects of online social engagement. Well-regarded studies from Lee and Hsieh (2013), Harlow (2009), Tufeki and Wilson (2011), and Bennett and Segerberg (2013) argue that engagement with activism via social media has a more positive effect, a transferring effect, on offline civic engagement. Shirky (2011), one of the first public scholars to propose the revolutionary potential of new media, argues that the public sphere online is directly connected to the public sphere offline. For Shirky, these spaces are one and the same and there are tangible, and exciting, political uses for social media.

While each of these studies has their merits, the reality of online civic engagement likely lies somewhere in the middle—with some people benefitting from conversations online and transferring this action offline and other people only engaging casually. Regarding ethical concerns, oversimplification of issues does occur on social media sites and "balanced" news articles, with equal attention paid to climate change science and skepticism, are more widely circulated. News organizations from the BBC, to CNN, and to Fox News continue to foster and promulgate the public perception that the scientific community is equally split over climate change, when in actuality 97% of researchers believe that climate change exists and is caused, at least in part, by human activities (Abraham & Nuccitelli, 2014). Twitter, Facebook, and other sites serve as tools for propagating such perceptions while synchronously acting as places for people to air more subjectively minded views, which may or may not be in favor of or informed by in depth understandings of issues like climate change.

The ways in which those on social media act as gatekeepers, as regulators of science and news information in this case, bring up interesting questions is the debate over social media's role in issue comprehension and civic engagement. Tweeting on the subject of climate change certainly occurs, and in large numbers. A recent study on tweets relating to the Intergovernmental Panel on Climate Change's (IPCC) 2014 report found that over 50,000 Twitter users tweeted about the report in the few months after its release (Donald, 2014). Here, thousands of Twitter users worked to spread scientific information on climate change. This function of social media is important, but equally so is its ability to provide users with an aggregative tool for news articles. How, though, might scientists and researchers from a variety of fields more effectively transmit information that helps to increase public comprehension of scientific issues, thus allowing for more robust dialogues online?

Nisbet and Scheufele (2009) examine social science research in order to track the ways academics have written about public understanding and participation in social decisions related to scientific controversies. Here, the authors argue that different types of media have served as communication tools for spreading both nuanced thought and worrying disinformation to publics concerned with important scientific issues from global warming to evolution. The argument of this piece rests on the idea that, "any science communication efforts need to be based on a systematic empirical understanding of an intended audience's existing values, knowledge, and attitudes, their interpersonal and social contexts, and their preferred media sources and communication channels." Nisbet and Scheufele place the burden on communicative connectivity between the social sciences and STEM fields, suggesting that more competent communication will result in more nuanced dialogues with journalists, other media makers, and general publics.

This conversation, according to Nisbet and Scheufele (2009), might help to educate journalists and publics on the necessity of empirical research and findings, rather than allow the continuance of so-called "objective" journalism that relies on unscientific information to counterbalance scientific claims borne out of rigorous research and questioning. Interestingly, this piece offers deliberative social networking forums, like Twitter and Facebook, as having potential for nuanced dialogue of scientific issues and possible social engagement. "Deliberative forums," write Nisbet and Scheufele, "can shape perceptions of scientists as open to feedback and respectful of public concerns, perceptions that predict eventual acceptance and satisfaction with a policy outcome, even if the decision is contrary to an individual's original preference."

This article furthers the idea that "data should trump intuition" and that scientists and academics must advance their communication methods to be in line with the current media landscape. Researchers must speak the language of the publics they are trying to educate, via the media such publics are using—social media sites and the Internet at the forefront. Nisbet and Scheufele suggest that:

> Some critics argue that it would be unethical to take advantage of strategic communication tools to make scientific issues more relevant and accessible to a general public. But recent data on potentially widening knowledge gaps suggests that it may be unethical if we *did not use all* communication tools at our disposal to connect with hard-to-reach audiences. (Nisbet & Scheufele, 2009; Scheufele & Brossard, 2008)

They argue for the potential of participatory media sites, like blogs and social networks, and in favor of the notion that scientists must move beyond traditional communication methods based within museums, documentaries, and science-oriented websites—which, they posit, favor elites over general publics. By harnessing a variety of media, new and old, Nisbet and Scheufele believe researchers can genuinely begin both to teach publics on the pressing scientific issues of our time and perpetuate informed public discussion on mainstream media platforms.

How, though, are publics discussing notions of science and perceived scientific controversies online? How is climate change currently discussed on social media sites? While Donald (2014) presents information on a corpus of users discussing serious climate policy related to the latest IPCC report, this population is relatively small when compared with the millions who actively tweet every day. Carvalho (2007) argues that journalists and others reframe scientific issues as controversies in existing media platforms. This reframing, in turn, perpetuates ideological understanding and notions of issues like climate change. Nisbet and Kotcher (2009), conversely, find that opinion leader campaigns on climate change that harness social media networks can be effective in changing citizens' actions and conversations. They argue that conversations among publics on social media can often lead to direct offline action related to climate change. This said, in depth rhetorical analysis of a range of social media messages, perhaps nuanced with a big data study of tweets or posts referring to climate change, is needed to determine the current depth and breadth of people's use of social media as a communication tool for discussing climate change issues.

What are the ethical implications associated with using social media to communicate about weighty issues like climate change? Are there differing ethical implications for journalists (versus everyday citizens) who use sites like Twitter to communicate stories on scientific issues? A study by Wright and Hinson (2008) found that social media reporting complements what is done via traditional media, but also that social media reporting influences traditional reporting. If the latter is true, might there be instances where brevity is valued over depth in current journalism? Might people begin to expect sound bites and thus not retain social and academic

values related to close listening and in-depth understanding? According to Crawford (2009), "social networks could be considered as configurations that push our attention and distraction to new limits, and we are already witnessing the creation of new agencies to outsource this work of presence and perception." Crawford argues that social media can be a research tool but that it is more likely a tool for socializing and entertainment. Furthermore, she theorizes, these communication tools will undoubtedly change society's standards as they relate to cultures of listening, attention, education, and understanding. Crawford calls for continued research focused on understanding the ways online spaces might afford or constrain publics in terms of connection and communication. The ethical implications, upon journalists and the general public, are manifold.

Nisbet and Scheufele (2009) offer up an intriguing path for rearticulating discourses of climate change via new media and social networks. Ferguson (2014) suggests that the discourses on the green economy agenda within business and government have resulted in a rearticulation of norms in these realms. Might the same occur for wider publics, in relation to climate change, via online engagement? Perhaps scholars hoping to connect to the public, and educate citizens on issues such as climate change, should follow the suggestions of Ferguson and work to rearticulate notions of prosperity, progress, and security by harnessing the variety of media types suggested by Nisbet and Scheufele. Bennett and Segerberg (2013) are of this opinion, arguing that personalized communication via social networks can result in a new brand of collective action, what they deem "connective action." The convergence of these approaches seems to give academics a pathway for communicating with journalists and publics in order to foster more nuanced dialogues on scientific issues and more developed understandings of concerns like climate change.

4. CONCLUSION: FINDING A PLACE FOR DELIBERATION AND DEMOCRACY

Do journalists have an ethical duty to give their audiences an enhanced ability to respond to science that signals impending environmental threat like climate change? Robert Cox believes that these are the activities of environmental communication, what he labels a crisis discipline (2007). If we perceive environmental and science journalists as engaged in this work, they should identify and analyze the ways in which environmental concerns have been distorted and be willing to make recommendations regarding how the public should respond to environmental threats. Clearly these recommendations fly in the face of journalistic norms of objectivity, but as was previously shown, objectivity has been a challenging concept when journalists encounter scientific controversy.

One path forward is made by Jean Goodwin (2011) who advocates for scientists to bond their reputation with their view. This bonding is an ethos appeal that promotes visibility and accountability, thus maintaining the expert's authority despite making claims in civic deliberations. Increasing personal risk may act to strengthen the scientist's appeals, a process opposite of what happens when climate scientists band together and proclaim consensus. Goodwin points to the ability for citizens to revoke the expert status of a scientist as key to the scientist's authority. In this way, the relationship between the scientist and the public is more democratic than it originally appears.

Heath et al. (2007) offer another path forward in suggesting that environmental and risk communicators focus less on transmitting an informed understanding of the science and more so on the communication of values. Shifting the conversation away from determining whether there

truly is a scientific consensus around climate change and toward emphasizing risk management, brings the quality of social relationships into view. Questions about whether the science presented to the public represents a consensus or not should be backgrounded in public debates. Instead, public opinion concerning issues with a scientific consensus like climate change should center on the prioritization of values, a discussion perfectly suited for the public forum.

Ceccarelli (2011) offers a few suggestions for those faced with a manufactured controversy:

> (1) engage the opponent's claims but then explicitly shift the stasis from questions of fact, definition, and cause to the questions of value and policy that are the driving force behind the public debate; (2) counter the charge that dissent is being silenced by characterizing science as a process of open debate among experts, a process that is ongoing but that has been fairly settled on this issue; and (3) point to the "smoking gun" memos and other indicators that scientific controversy is being manufactured to manipulate a public audience in these cases, while taking care not to adopt a dismissive tone toward everyone who takes a skeptical view toward mainstream science (p. 217)

Again it can be seen that the real debate is about conflicting sets of values that often filter climate science into multiple interpretations. These suggestions attempt to strengthen the ethos of the scientist through improving his public appearance, a necessary action in a climate of misunderstanding and distrust of science broadly. However, these suggestions maintain the distinction between the technical and public sphere without engaging the complicated and porous relationship between the two groups.

Beyond considering how scientists should frame arguments for the public, emphasis should also be placed on facilitating cooperation between scientists and journalists, who often act as gatekeepers of climate science. Gross (2014) points out that journalism is not an extension of scientific activity, but it does contribute to its social value. This collaboration between journalists and scientists enhances scientific journalism and brings scientific issues to public visibility, but it is still not the venue for scientific debate. Gross instead suggests that the quality of scientific coverage should be determinant not on the notion of balance, but on the quality of sources, and that they must be primary and plural. Hiles and Hinnant (2014) found the same emphasis on source quality over "balance" through interviewing veteran environmental reporters. Through the increasing realization that the technical and the political spheres operate under different logics, journalists offline and online are making headway in presenting accurately environmental issues that concern the public's interest.

In 2011 environmental journalist Andrew Revkin wrote on Dot Earth, a *New York Times* blog, calling for scientists to forget the notion that effectively communicating scientific information would end up "changing people's perceptions, priorities and behavior." Although he voiced his opinion that scientists have an opportunity and responsibility to communicate information more directly, via blogs and social media, he highlights a problematic assumption that sleeps at the root of the problem when scientific information enters the public sphere. Science as a mode of inquiry is just that, one mode of knowing out of many. In his article, Revkin quotes the cultural history of science scholar Thomas Lessl as saying,

> Scientism, though it is good at promoting the recognition that scientific knowledge is the only kind of knowledge, also promotes communication behavior that is bad for the scientific ethos. By this I mean that it turns such communication into combat. By presuming that scientific understanding is the only criterion that matters, scientism inclines public actors to treat resistant audiences as an enemy: If the public doesn't get the science, shame on the public. If the public rejects a scientific claim, it is either because they don't get it or because they operate upon some sinister motive.

Science, as a "one-size-fits-all notion of truth telling," does not represent how the public thinks. Lessl lists several other modes of inquiry that are brought to the table, including moral judgment, common-sense judgment, metaphysical perspectives, and ideologies. In a democratic debate, science is but one of these truth standards. The science of climate change is a carrier of information, but the interpretation of that content depends on the context. As this vehicle leaves the realm of scientism and into the public sphere, new norms and assumptions come into play.

Because the public's appreciation for scientific endeavors comes from the care and cultivation of scientists, Lessl suggests that scientists focus on this role when the scientific mode of inquiry is not accepted. His public communication suggestions include an emphasis on personal knowledge over technical knowledge, as there involves an inequity of understanding. Olausson (2011) concurs, suggesting that the media should include personal and collectively deliberated experiences into the framework for making sense of climate change. This focus begins to alleviate the strain caused by giving weight to exclusive knowledge in a democratic system. He also points out that "scientific knowledge cannot take the place of prudence in public affairs." In the public sphere, reasoning from scientific evidence alone fails to resonate with the populace, and scientists should recognize and respect the fact that their audience takes into consideration a variety of ways of knowing.

As gatekeepers of the climate change debate journalists often become the primary validator of truth and urgency. The arguments of scientists and their skeptics are subordinate to the context of the public sphere, something the skeptics have so far used to their advantage. In the public sphere, the media can validate scientific claims, but as stated earlier, journalists are not an extension of the technical sphere. When making public claims engagement should be a primary concern. Scientists, and journalists for that matter, need to bring people into the discussion. In a public forum, principles of democracy still hold sway, whether or not claims are made with specialized knowledge. Communication about climate change is different from climate science and for scientists to make convincing claims, need to speak on the level of the public. For climate science and the threat of climate change to become a higher priority in public discussions, the multiple and democratic relationships between scientists, journalists, and the public need to be strongly considered and in the end, strengthened.

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